

**WHAT IS CLAIMED IS:**

- 1           1. A automatic compensating valve, comprising:
  - 2           a valve body defining a cold water inlet flow passageway, a hot water inlet flow
  - 3           passageway, a mixing chamber, a mixed temperate water outlet flow passageway, and an
  - 4           axial bore;
  - 5           a plunger defining, with other elements of said valve, a first orifice for
  - 6           communication of said cold water inlet with said mixing chamber and a second orifice for
  - 7           communication of said hot water inlet with said mixing chamber, said plunger being mounted
  - 8           within a mixing subassembly for axial movement within said bore, including in response to
  - 9           temperature of water within said mixing chamber to vary the ratio of flow of cold water
  - 10          through said first orifice to flow of hot water through said second orifice;
  - 11          said first orifice and said second orifice being arranged for flow of water
  - 12          transverse to axial movement of said plunger within said bore; and
  - 13          a wax motor mounted axially within said bore for positioning of said plunger in
  - 14          response to temperature of water within said mixing chamber.
- 15          2. The automatic compensating valve of claim 1, further comprising a spring biasing
- 16          said plunger towards a relatively greater ratio of flow of hot water to flow of cold water into
- 17          said mixing chamber.
- 18          3. The automatic compensating valve of claim 1 or claim 2, further comprising a
- 19          spring biasing said wax motor and said plunger towards a relatively greater ratio of flow of
- 20          cold water to flow of hot water into said mixing chamber.
- 21          4. The automatic compensating valve of claim 3, wherein said plunger is positioned
- 22          upon opening for initial preferential flow of cold water into said mixing chamber.
- 23          5. The automatic compensating valve of claim 1, further comprising a poppet check
- 24          and shutoff valve assembly in each of said cold water inlet flow passageway and said hot
- 25          water inlet flow passageway.
- 26          6. The automatic compensating valve of claim 1, further comprising said mixing
- 27          subassembly disposed axially within said bore and a stem subassembly disposed axially
- 28          within said bore.

30           7. The automatic compensating valve of claim 6, wherein said stem subassembly and  
31       said mixing subassembly are accessible from the face of said valve.

32           8. The automatic compensating valve of claim 1, for use with individual shower and  
33       tub/shower combination fixtures.